



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION III  
1650 Arch Street  
Philadelphia, Pennsylvania 19103-2029

In Reply Refer to: 3AP20

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED

DEC 27 2017

Jon T. Hickman  
EHS Specialist  
Ascent Resources  
1000 Utica Way  
Cambridge OH 43725

Dear Mr. Hickman:

Enclosed is the Air Compliance Inspection Report for the United States Environmental Protection Agency's (EPA) September 18, 2017 inspection of Ascent Resources' (Ascent) facilities located in Wetzel County, West Virginia. Please take note of the Areas of Concern on page 8 of the enclosed report. After you and your staff have reviewed the report, EPA would like to provide Ascent the opportunity to discuss the Areas of Concern identified and Ascent's potential remedies. Specifically, EPA is interested in discussing the design and operation of the storage tank vapor capture systems and controls at Ascent facilities. In addition to the inspection report, a compliance alert issued to industry by EPA in September 2015 is included that addresses some general compliance concerns regarding emissions from storage vessels at oil and natural gas production facilities.

If you have questions or comments, or would like to schedule a meeting, please contact Natalia Vazquez of the Air Protection Division or Mr. Doug Snyder of the Office of Regional Counsel at (215) 814-2692 within fifteen (15) days of receiving the inspection report.

Sincerely,

A handwritten signature in blue ink, appearing to read "Zelma Maldonado", is positioned above the typed name.

Zelma Maldonado, Associate Director  
Office of Air Enforcement & Compliance  
Assistance

Enclosure

cc: Christopher Williams and Daniel Hoyt, USEPA Air Enforcement Division, Washington, D.C.







UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION III  
1650 Arch Street  
Philadelphia, Pennsylvania 19103-2029

Inspection Date(s): 09/18/2017

**Regulatory**

**Program(s):** SIP, NSPS

**Company name:** Ascent Resources

**Facility Physical**

**Location:** Wileyville, West Virginia

**Mailing Address:** 1000 Utica Way  
Cambridge Ohio 43725

**County/Parish:** Wetzel County

**Facility Contact:** Jon T. Hickman, EHS Specialist  
jon.hickman@ascentresources.com, 740-432-9002

**AFS Number:** 5410300051, Hoyt 401  
5410300047 Hoyt 402  
5410300067 Hoyt 403  
5410300080 Long 408/409  
5410300104 Mary Miller  
5410300098 WJ Criswell 405

**NAICS:** 211113 - Conventional Oil and Gas Extraction

**SIC:** 1311: Crude Petroleum and Natural Gas

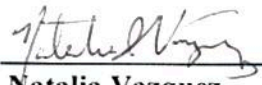


**Attendees:**

**Facility Representatives:**

Jon T Hickman, EH&S, 740-432-9002  
Amanda Warnock, EH&S (Environment)  
Casey Pingley, EH&S (Safety)  
EM Maykowski, Optical Gas Imaging Camera Technician  
Brent Vanderhoff, Production

**EPA Inspectors:**

Daniel Hoyt, USEPA Headquarter/2248, 202-564-7898  
Natalia Vazquez, USEPA Region III/3AP20, 215-814-2121  
Steve Rieck, USEPA Region IV/9T25, 404-562-9177

|                    |  |                    |
|--------------------|--|--------------------|
| EPA Lead Inspector | <br>Natalia Vazquez | 12/13/2017<br>Date |
| EPA Inspector      | <br>Daniel Hoyt     | 12/13/2017<br>Date |
| Supervisor         | <br>Zelma Maldonado | 12/27/2017<br>Date |

## I. Introduction

The United States Environmental Protection Agency (EPA) visited several Ascent Resources (Ascent) wellpads to verify compliance with permitting requirements and applicable State and Federal regulations. On September 12, 2017, the EPA notified Evan Pearson of Ascent by phone and email of the Clean Air Act (CAA) inspection to be conducted on September 18, 2017. At a later email (9/14/2017), Ascent notified EPA that Jon Hickman would be the point of contact (see Attachment #1).

### A. Summary of the Facility-

EPA visited seven (7) wellpads owned, drilled and operated by Ascent. The names of the seven visited sites are: Long 408 and 409, Hoyt 403, Hoyt 402, Hoyt 401, Hoyt 404, WJ Criswell 405, Mary Miller GRT WZ. The wells are subject to 40 C.F.R. Part 60 Subpart OOOO – Standards of Performance for Crude Oil and Natural Gas Production, Transmission and Distribution for which Construction, Modification or Reconstruction Commenced After August 23, 2011 and on or before September 18, 2015 (NSPS OOOO) and 40 CFR Part 60 Subpart OOOOa – Standard of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced After September 18, 2015 (NSPS OOOOa)<sup>1</sup>.

### B. Inspection Opening Conference-

EPA met with Ascent representatives at a gas station in New Martinsville, West Virginia (39.6421 N, 80.8583 W), at 9am on September 18, 2017. Daniel Hoyt (Headquarters), Natalia Vazquez (Region III) and Stephen Rieck (Region IV) were representing EPA. The EPA inspection team presented their credentials. The West Virginia Department of Environmental Protection was invited to attend; however, they were not able to participate in the inspection. EPA informed Ascent that the purpose of the inspection was to assess compliance with the applicable regulations at the wellpads. EPA informed Ascent it would be taking photographs and videos with a digital camera and an optical gas imagining (OGI) camera, respectively. Ascent was informed that it is their right to claim any photo, video and document as Confidential Business Information (CBI) and EPA would treat it as such. Ascent did not claim any material as CBI during the inspection. Ascent provided a short safety orientation to the EPA inspection team.

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<sup>1</sup> Ascent confirmed this by email on December 5, 2017.



**II. Process Overview**

Each of the seven sites visited by EPA had several horizontally drilled wells that extract natural gas and condensates. Each site was equipped with sand traps, gas processing units (GPU), condensate storage tanks, produced water storage tanks, in addition to the wells. The sand traps filter out solid material that flows out of the well with the natural gas to prevent it from entering the GPU. The GPU's are 3-phase separators, which separate the gas stream into natural gas, condensate liquids and produced water. Storage tanks are manifolded together through a closed vent system that collects tank vapors and routes them to a combustion control device.

All seven sites are considered minor sources for the purposes of permitting. Each site has either a minor source permit or a general permit G70 for natural gas production facilities (both under 45CSR13). At the end of the day on September 18, Mr. Hickman provided EPA with copies of the permits for all sites, except WJ Criswell 405<sup>2</sup>. The permits are listed below.

| <b>Facility name</b>        | <b>Permit type and number</b> | <b>Dates</b>       |
|-----------------------------|-------------------------------|--------------------|
| Hoyt 401                    | Minor R13-2992C               | January 13, 2017   |
| Hoyt 402                    | Minor R13-2966C               | January 30, 2017   |
| Hoyt 403                    | Minor R13-3091A               | March 21, 2017     |
| <b>Hoyt 404<sup>3</sup></b> | Minor R13-2985C               | January 6, 2017    |
| Long 408 and 409            | Class II General Permit G70-C | September 30, 2016 |
| Mary Miller GRT WZ          | Minor R13-3349A               | June 16, 2017      |

The general permit G70-C establishes the following maximum annual emission limits:

| <b>Pollutant</b>                         | <b>Maximum Annual Emission Limit (tpy)</b> |
|--|--|
| Nitrogen oxides (NO <sub>x</sub> )       | 50   |
| Carbon monoxide (CO)                     | 80   |
| Volatile organic compounds (VOC)         | 80   |
| Particulate matter (PM)                  | 20   |
| Sulfur Dioxide (SO <sub>2</sub> )        | 20   |
| Any single Hazardous air pollutant (HAP) | 8  |
| Total Hazardous air pollutant (HAPs)     | 20   |

<sup>2</sup> Ascent provided WJ Criswell by email on October 12, 2017.

<sup>3</sup> Hoyt 404 also has the name John Rush 404, which was confirmed with Latitude and Longitude provided in the permit.

### III. Plant Tour/Walkthrough

EPA visited seven well pads owned by Ascent Resources. During each visit, EPA used the optical gas imaging (OGI) camera and photoionization detector (PID) to identify emissions. PID readings of the leak observed at sites visited can be found in Attachment #2, in the videos and photographs log.

#### **Long 408 and 409 39.5975N, 80.6747W**

EPA arrived at the Long well site at 9:48am on September 18, 2017. The site has 11 wells and the last flowback was completed sometime between December 2014 and January 2015. There is a sand trap and a GPU dedicated to each well. The GPUs were originally 3-phase separators; but now are 2-phase, in that they are set to only remove liquids from the gas stream. Mr. Vanderhoff stated that the liquids removed from the gas stream are sent to the heater treater to separate condensate and produced water. The material streams from the heater treater are then sent to the corresponding storage tank. There are 14 storage tanks, 8 for condensate and 6 for produced water. The 14 tanks are divided into 3 groups and in each group, the tanks are manifolded together and share a common pressure relief valve. The closed vent systems for each of the three storage tank groups route vapor to a shared enclosed combustor. The natural gas separated at the GPU is sent to Blue Racer Midstream via an underground pipeline. Mr. Vanderhoff stated that the midstream company maintains a pressure in mainline around 300 psi. This facility produced 20624.25 MCF of natural gas on the day prior to the inspection. This facility also has a stabilizer and a pressurized natural gas liquids tank, however, both pieces of equipment were out of service during the inspection. Mr. Vanderhoff explained that Ascent's actual liquid production did not meet anticipated production.

EPA conducted a walkthrough of the site, Mr. Hoyt used an OGI camera (brand: FLIR) to identify emissions and Mr. Rieck used a photoionization detector (PID) to measure the concentration of VOCs emitted. Emissions were observed and confirmed emanating from the following equipment:



1. GPU unit 409S-5H,
2. enclosed combustor (this was not confirmed with the PID),
3. pressure relief valve on top of condensate tank with AST number 052-00000338,
4. thief hatch on condensate tank with AST number 052-00001029,
5. thief hatch on condensate tank with AST number 052-00000311,
6. thief hatch on condensate tank with AST number 052-00000322,
7. thief hatch on condensate tank with AST number 052-00000350,
8. thief hatch on condensate tank with AST number 052-00000328,
9. thief hatch on produced water tank with AST number 052-00001031,
10. thief hatch on condensate tank with AST number 052-00001027 (odor detected by Ms. Vazquez),
11. pressure relief valve on top of condensate tank with AST number 052-00001027,
12. thief hatch on produced water tank with AST number 052-00000298,
13. thief hatch on produced water tank with AST number 052-00000345, and
14. thief hatch in produced water tank with AST number 052-00000333.

**Hoyt 403 39.5992N, 80.6539W**

EPA arrived at the Hoyt 403 well site at 11:53am on September 18, 2017. There are 6 wells at this site. This facility had a natural gas flowrate of 9132.72 MCF on 9/17/2017. This site has two gun barrels, each one connected to two condensate tanks and two produced water tanks. Gun barrel is a condensate/produced water separator. Both gun barrels have stains on their surfaces. This facility has a vapor recovery unit (VRU) that was out of service during the inspection. Mr. Vanderhoff said that Ascent does not label equipment that is out of service, he knows which equipment is not being used by memory. While observing the storage tanks, Mr. Hoyt noticed an indentation and standing water on the produced water storage tank #2-south. Emissions were observed and confirmed, during the site walk through, coming from the following equipment:

1. GPU 1H,
2. diaphragm in GPU 1H, and
3. thief hatch in produced water tank with AST number 052-00000347.

**Hoyt 402 39.5986N, 80.6519W**

EPA arrived at the Hoyt 403 well site at 12:35pm on September 18, 2017. The site has 6 wells and produced 3878 MCF of natural gas the previous day. The site has an enclosed combustor, 2 gun barrels, 4 condensate tanks and 4 produced water tanks. During the walkthrough, EPA detected odors coming from several pieces of equipment as indicated below. EPA noticed stains

on the gun barrel tank and on a storage tank (see photo DSC00802). Emissions were observed and confirmed emanating from the following equipment:

1. GPU 5H (odor detected by Ms. Vazquez),
2. thief hatch in condensate tank with AST number 052-00000312,
3. thief hatch in condensate tank with AST number 052-00000320,
4. thief hatch in produced water tank with AST number 052-00000332,
5. thief hatch in produced water tank with AST number 052-00000312,
6. thief hatch in condensate tank with AST number 052-00000339 (odor detected by Mr. Hoyt),
7. thief hatch in produced water tank with AST number 052-00000314 (odor detected by Mr. Hoyt and Ms. Vazquez), and
8. thief hatch in produced water tank with AST number 052-00000324 (odor detected by Mr. Hoyt and Ms. Vazquez).

**Hoyt 401** 39.5975N, 80.6522W

EPA arrived at Hoyt 401 wellsite at 1:56pm on September 18, 2017. The site has 6 wells and produced 7228 MCF of natural gas the previous day. The site has 6 line heaters, 2 gun barrels, 4 condensate tanks and 4 produced water tanks. Stains were observed at the two gun barrels. The site has a candle-stick flare to control emissions from the storage tanks. EPA did not observe any emissions with the OGI camera.

**Hoyt 404** 39.6111N, 80.6378W

EPA arrived at the site at 2:29 pm on September 18, 2017. The site has 6 wells and is producing approximately 1 bbl of liquids per day according to Mr. Vanderhoff. The site had a gas flow of 7423 MCF the day prior to the inspection. The site has 6 sand traps, 6 line heaters, 2 gun barrels, 4 condensate tanks and 4 produced water tanks. Mr. Vanderhoff mentioned that the last flowback was around spring of 2013. The site has a flare that was shutdown. EPA did not observe any emissions with the OGI camera.

**WJ Criswell 405** 39.6086N, 80.6181W

EPA arrived at the site at 2:54pm on September 18, 2017. The facility currently has 3 wells. The facility had a gas flow of 12663 MCF on the previous day. The site has 3 sand traps, 3 GPU, 3 condensate tanks, 3 produced water tanks. The site also has a NGL tank that was out of service. The facility has an enclosed combustor that appeared to not be operating during the inspection. The tank header piping appeared to be connected to the combustor. EPA observed and confirmed emissions emanating from two locations:

1. thief hatch in produced water tank with AST number 052-00001147 and
2. thief hatch in produced water tank with AST number 052-00001144.

**Mary Miller GRT WZ** 39.6156N, 80.6144W

EPA arrived at the site at 3:19pm on September 18, 2017. The well pad consisted of 4 wells. The site produced 19006 MCF of natural gas during the previous day. This facility has a glycol heater that was not operating during the inspection. Mr. Vanderhoff explained that it was installed to prevent freezing in the pipeline, but Ascent has never encountered a problem with

AFS-5410300051, 5410300047, 5410300067, 5410300080, 5410300104, 5410300098



freezing. The site has 4 sand traps, 4 GPUs, 2 condensate tanks, and 2 produced water tanks. The site has a candle stick flare to control emissions from the condensate tanks. Excess emissions were not observed with the OGI camera. At the end of the facility walk through, Ascent and EPA scheduled a close out meeting for 9/21/2017 at 2:30 pm.

#### **IV. Records Review**

EPA did not request and did not complete a records review during the inspection. Ascent's closest office is located in Parkersburg, West Virginia; approximately an hour away from the sites. During the inspection, EPA received the permits from all sites, except WJ Criswell 405, which was provided by email in October 12, 2017. EPA requested several documents during the closing meeting on September 21, 2017. A list with the requested documents was also sent by email to Ascent on September 28, 2017 (see Attachment #3). Ascent provided all requested documents by email on October 12, 2017.

#### **V. Closing Conference**

The closeout meeting took place at 2:30pm on September 21, 2017 at the Western Sizzlin located on 37 Neal Run Blvd, Parkersburg, WV. Mr. Hoyt, Ms. Vazquez, Mr. Hickman and Ms. Warnock were present at the meeting, in addition to Mr. Bob Adams, Ascent's Operations EH&S Field Manager. EPA shared a CD containing all videos and photographs taken during the inspection with Ascent.

EPA and Ascent discussed the company's monitoring, a well-pad operator's responsibilities, and SOP. Ascent indicated that an operator visits each site daily to walk around, verify alarms and shutdown events. If necessary, the operator takes the necessary steps to prevent continuous emission releases. Ascent conducts leak detection and repair (LDAR) with an OGI camera semi-annually and performs auditory, visual and olfactory monitoring on a daily basis. Mr. Maykowski uses an OGI camera, FLIR GF320 model, during the LDAR monitoring. Ascent said it would provide Standard Operating Practices (SOP) related to the LDAR procedure and documents related to best engineering guidance related to thief hatches and pressure relief valves. Ascent provided several documents related to LDAR and maintenance in October 12, 2017.

Ascent informed EPA that the pneumatic controllers at all their facilities are low-bleed pneumatics. EPA asked Ascent to provide schematic and documentation for their pneumatic controllers.

EPA also, requested engineering documents related to the enclosed combustor and documentation of any repairs related to the emissions observed. EPA stated that an inspection report documenting the observations during the onsite inspections would be sent to Ascent.

## VI. Areas of Concern

The following have been identified as potential issues identified during the inspection. They are issues that require either further investigation by EPA or additional information and/or explanation by Ascent. Any additional information concerning these areas provided by Ascent would become useful in determining the extent of any future actions by EPA.

1. Emissions from the enclosed combustor in Long 408 and 409 well-pad observed with the OGI camera.
2. Emissions emitted from thief hatches and pressure relief valves at the following well-pads with the OGI camera. The VOC PID readings for each observed emission with the OGI camera are included in Attachment #2. The emissions observed from the pressure relief valves were not confirmed with the PID due to difficulty to reach.
  - a. Long 408 and 409 from one GPU, two out of the three pressure relief valves, the thief hatches of six condensate tanks and the thief hatches of four produced water tanks
  - b. Hoyt 403 from one GPU and the thief hatch of one produced water tank
  - c. Hoyt 402 from one GPU, the thief hatches of three condensate tanks and the thief hatches of four produced water tanks
  - d. WJ Criswell 405 from the thief hatches of two produced water tanks

## VII. List of Attachments

1. Email confirming the CAA inspection, dated 9/12/2017
2. Photo and Video Log
3. Email with the list of the requested documents at the close-out meeting, dated 9/28/2017

## Vazquez, Natalia

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**From:** Hoyt, Daniel  
**Sent:** Tuesday, September 12, 2017 4:23 PM  
**To:** evan.pearson@ascentresources.com  
**Cc:** Vazquez, Natalia  
**Subject:** Ascent Resources: Notification for Site Visits

Hello Evan Pearson,

We spoke earlier today, and I notified you that EPA will be conducting site visits at Ascent Resources facilities in the counties of Wetzel, Doddridge and Tyler in West Virginia during the week of September 18 through September 22, 2017. I will be accompanied by Natalia Vazquez of EPA (cc'd) during the site visits. The exact locations that we will visit have not been determined. We request that an Ascent Resources representative accompany us throughout the week at each of the sites that we visit. You mentioned that Ascent Resources has an office in Parkersburg, WV, where we could meet on the morning of September 18, at 9 am. It looks like that location could work for us. Please reply to all and include the contact information of the person who we will need to coordinate with. Natalia or I will contact the designated individual, to coordinate meeting details for the week.

Thanks,

Dan

Daniel Hoyt, Environmental Engineer  
US Environmental Protection Agency  
Office of Enforcement and Compliance Assurance  
Office of Civil Enforcement - Air Enforcement Division  
(202) 564-7898  
1200 Pennsylvania Ave, NW  
WJC-S, MC 2242A  
Washington, DC 20460 (mail) or 20004 (courier)





| Ascent Resources 9/18/2017 |          |  |             |
|----------------------------|----------|--|-------------|
| Facility: Long 408 and 409 |          |  |             |
| File Number                | Time     | Description  | PID reading |
| IR_0212                    |          | Test photograph, please disregard  |             |
| DSC00763                   | 9:52 am  | Sign at entrance of Long 408 and 409 wellpad<br>Latitude: 39.5975N<br>Longitude: 80.6747W<br>Address: 1220 Ashland Ridge Rd.<br>Wileyville WV 26581<br>Photograph by Steve Rieck |             |
| DSC00764                   | 9:52 am  | Sign for each well at the wellpad.<br>Photograph by Steve Rieck  |             |
| DSC00765                   | 10:09 am | Well heads, sand traps and GPUs<br>Photograph by Natalia Vazquez   |             |
| DSC00766                   | 10:10 am | Wellhead Long 409 S-6H<br>Photograph by Natalia Vazquez  |             |
| MOV_0213                   | 10:14    | Test video, please disregard<br>Video by Daniel Hoyt   |             |
| DSC00767                   | 10:15 am | Data Output Screen, Gas Meter, Sales Check Meter<br>Photograph by Natalia Vazquez  |             |
| MOV_0214                   | 10:16 am | Emissions observed at the enclosed combustor<br>Video by Daniel Hoyt   |             |
| DSC00768                   | 10:18 am | Data Output Screen, Condensate Storage Tank Levels (in inches)<br>Photograph by Natalia Vazquez  |             |
| DSC00769                   | 10:19 am | Data Output Screen, Produced Water Storage Tanks Levels (in inches)<br>Photograph by Natalia Vazquez   |             |
| DSC00770                   | 10:22 am | Sand traps<br>Photograph by Natalia Vazquez  |             |
| DSC00771                   | 10:22 am | GPUs<br>Photograph by Natalia Vazquez  |             |
| DSC00772                   | 10:35 am | Stabilizers, Out of Service<br>Photograph by Natalia Vazquez   |             |

|          |          |   |         |
|----------|----------|---|---------|
| DSC00773 | 10:36 am | Heater Treater<br>Photograph by Natalia Vazquez   |         |
| DSC00774 | 10:37 am | Wellheads<br>Photograph by Natalia Vazquez  |         |
| DSC00775 | 10:39 am | Sand traps<br>Photograph by Natalia Vazquez   |         |
| DSC00776 | 10:39 am | GPUs<br>Photograph by Natalia Vazquez   |         |
| DSC00777 | 10:41 am | NGL Storage Tank, Out of Service<br>Photograph by Natalia Vazquez   |         |
| DSC00778 | 10:42 am | Enclosed Combustor<br>Photograph by Natalia Vazquez   |         |
| DSC00779 | 10:43 am | Label of Condensate Storage Tank #5, WV /AST # 052-00000338, Leak from the pressure relief valve (Enardo 950) was observed (Group of 5 Tanks next to the NGL Tank)<br>Photograph by Natalia Vazquez |         |
| DSC00780 | 10:54 am | Label of Condensate Storage Tank #3, WV AST # 052-00001029, Leak from thief hatch was observed (Group of 5 Tanks next to the NGL Tank)<br>Photograph by Natalia Vazquez                             |         |
| DSC00781 | 10:54 am | Label of Condensate Storage Tank #2, WV AST # 052-00000311, Leak from thief hatch was observed (Group of 5 Tanks next to the NGL Tank)<br>Photograph by Natalia Vazquez                             |         |
| DSC00782 | 10:54 am | Label of Condensate Storage Tank #1, WV AST # 052-00000322, Leak from thief hatch was observed (Group of 5 Tanks next to the NGL Tank)<br>Photograph by Natalia Vazquez                             |         |
| MOV_0232 | 11:16 am | Emissions observed at the enclosed combustor (high sensitivity mode only)<br>Video by Daniel Hoyt   |         |
| DSC00783 | 11:17 am | Storage Tanks, 14 tanks in total, divided into 3 groups<br>Photograph by Natalia Vazquez  |         |
| DSC00784 | 11:19 am | Five Storage Tanks, the group that is next to the NGL Storage Tank<br>Photograph by Natalia Vazquez   |         |
| MOV_0233 | 11:19 am | Leak from the pressure relief valve (Enardo 950) was observed at Condensate Storage Tank #5, WV /AST # 052-00000338, (Group of 5 Tanks next to the NGL Tank)  | 150 ppm |



|          |          |   |         |
|----------|----------|---|---------|
|          |          | Video by Daniel Hoyt  |         |
| MOV_0234 | 11:20 am | Leak from thief hatch was observed at Condensate Storage Tank #3, WV AST # 052-00001029 (Group of 5 Tanks next to the NGL Tank)<br>Video by Daniel Hoyt   | 25 ppm  |
| MOV_0235 | 11:21 am | Leak from thief hatch was observed at Condensate Storage Tank #2, WV AST # 052-00000311, (Group of 5 Tanks next to the NGL Tank)<br>Video by Daniel Hoyt  | 40 ppm  |
| MOV_0236 | 11:22 am | Leak from thief hatch was observed at Condensate Storage Tank #1, WV AST # 052-00000322, (Group of 5 Tanks next to the NGL Tank)<br>Video by Daniel Hoyt  | 180 ppm |
| MOV_0237 | 11:24 am | Leak from thief hatch was observed at Condensate Storage Tank #4, WV AST # 052-00000350, (Group of 5 Tanks that is between the other two groups of tanks)<br>Video by Daniel Hoyt   | 10 ppm  |
| DSC00785 | 11:25 am | Label of Condensate Storage Tank #4, WV AST # 052-00000350, Leak from thief hatch was observed (Group of 5 Tanks that is between the other two groups of tanks)<br>Photograph by Natalia Vazquez                          |         |
| MOV_0238 | 11:25 am | Leak from thief hatch was observed Condensate Storage Tank #3, WV AST # 052-00000328 (Group of 5 Tanks that is between the other two groups of tanks)<br>Video by Daniel Hoyt   | 170 ppm |
| DSC00786 | 11:26 am | Label of Condensate Storage Tank #3, WV AST # 052-00000328, Leak from thief hatch was observed (Group of 5 Tanks that is between the other two groups of tanks)<br>Photograph by Natalia Vazquez                          |         |
| DSC00787 | 11:26 am | Label of Produced Water Storage Tank #2, WV AST # 052-00001031, Leak from thief hatch was observed (Group of 5 Tanks that is between the other two groups of tanks)<br>Photograph by Natalia Vazquez                      |         |
| MOV_0239 | 11:26 am | Leak from thief hatch was observed Condensate Storage Tank #2, WV AST # 052-00001031 (Group of 5 Tanks that is between the other two groups of tanks)<br>Video by Daniel Hoyt (EPA)                                       | 17 ppm  |
| MOV_0240 | 11:27 am | Leak from pressure relief valve was observed Condensate Storage Tank #1, WV AST # 052-00001027 (Group of 5 Tanks that is between the other two groups of tanks), odor detected by Natalia Vazquez<br>Video by Daniel Hoyt |         |

| MOV_0241           | 11:28 am | Leak from thief hatch was observed Condensate Storage Tank #1, WV AST # 052-00001027 (Group of 5 Tanks that is between the other two groups of tanks)<br>Video by Daniel Hoyt                        | 60 ppm      |
|--------------------|----------|--|-------------|
| DSC00788           | 11:29 am | Label of Produced Water Storage Tank #1, WV AST # 052-00001027, Leak from thief hatch was observed (Group of 5 Tanks that is between the other two groups of tanks)<br>Photograph by Natalia Vazquez |             |
| MOV_0242           | 11:29 am | Leak from thief hatch was observed of Produced Water Storage Tank #3, WV AST # 052-00000298, (Group of 4 Tanks that is closest to the site's gate)<br>Video by Daniel Hoyt                           | 50 ppm      |
| MOV_0243           | 11:30 am | Label of Produced Water Storage Tank #2, WV AST # 052-00000345, Leak from thief hatch was observed (Group of 4 Tanks that is closest to the site's gate)<br>Video by Daniel Hoyt                     | 70 ppm      |
| DSC00789           | 11:31 am | Leak from thief hatch was observed of Produced Water Storage Tank #3, WV AST # 052-00000298, (Group of 4 Tanks that is closest to the site's gate)<br>Photograph by Natalia Vazquez                  |             |
| MOV_0244           | 11:31 am | Leak from thief hatch was observed of Produced Water Storage Tank #1, WV AST # 052-00000333, (Group of 4 Tanks that is closest to the site's gate)<br>Video by Daniel Hoyt                           | 12 ppm      |
| DSC00790           | 11:32 am | Label of Produced Water Storage Tank #2, WV AST # 052-00000345, Leak from thief hatch was observed (Group of 4 Tanks that is closest to the site's gate)<br>Photograph by Natalia Vazquez            |             |
| DSC00791           | 11:32 am | Label of Produced Water Storage Tank #1, WV AST # 052-00000333, Leak from thief hatch was observed (Group of 4 Tanks that is closest to the site's gate)<br>Photograph by Natalia Vazquez            |             |
| Facility: Hoyt 403 |          |  |             |
| File Number        | Time     | Description  | PID reading |
| DSC00792           | 11:56 am | Sign at entrance of Hoyt 403 wellpad<br>Latitude: 39.5992N<br>Longitude:80.6539W<br>Address: 6887 Hoyt Ridge Rd.<br>Wileyville, WV 26581<br>Photograph by Daniel Hoyt                                |             |



| MOV_0245           | 11:57    | Video with cap on – Please disregard<br>Video by Daniel Hoyt  |             |
|--------------------|----------|---|-------------|
| DSC00793           | 12:03 pm | Storage Tanks<br>Photograph by Natalia Vazquez  |             |
| DSC00794           | 12:03 pm | Enclosed Combustor<br>Photograph by Natalia Vazquez   |             |
| MOV_0246           | 12:03 pm | Leak observed at GPU 1H<br>Video by Daniel Hoyt   |             |
| MOV_0247           | 12:04 pm | Leak observed at GPU 1H<br>Video by Daniel Hoyt   | 5 ppm       |
| MOV_0248           | 12:07 pm | Leak observed at GPU 1H – diaphragm<br>Video by Daniel Hoyt   | 8 ppm       |
| DSC00795           | 12:14 pm | Knockout Water Tank, Out of Service   |             |
| MOV_0249           | 12:17 pm | leak found in Thief Hatch, of Produced Water Storage Tank WV ATS # 052-00000347<br>(Tank #1 North)<br>Video by Daniel Hoyt                  |             |
| DSC00796           | 12:20 pm | Label of Produced Water Storage Tank, WV ATS # 052-00000347, leak found in Thief<br>Hatch, (Tank #1 North)<br>Photograph by Natalia Vazquez | 120 ppm     |
| DSC00797           | 12:23 pm | Gun Barrel Tank, WV AST # 052-00000327, stains on tank's surface<br>Photograph by Natalia Vazquez   |             |
| DSC00798           | 12:26 pm | Label of Tank WV AST # 052-00000309, stains on tank's surface<br>Photograph by Natalia Vazquez  |             |
| DSC00799           | 12:26 pm | Gun Barrel Tank, stains on tank's surface<br>Photograph by Natalia Vazquez  |             |
| Facility: Hoyt 402 |          |   |             |
| File<br>Number     | Time     | Description   | PID reading |
| DSC00800           | 12:38 pm | Sign at entrance of Hoyt 402 wellpad<br>Latitude: 39.5986N<br>Longitude: 80.6519W<br>Address: 6879 Hoyt Ridge Rd.<br>Wileyville, WV 26581   |             |



|          |         |   |                           |
|----------|---------|---|---------------------------|
|          |         | Photograph by Daniel Hoyt   |                           |
| DSC00801 | 1:06 pm | Wellhead<br>Photograph by Natalia Vazquez   |                           |
| MOV_0250 | 1:09 pm | Leak observed at GPU 6H, an odor was detected by Ms. Vazquez<br>Video by Daniel Hoyt  | 20 ppm                    |
| MOV_0251 | 1:16 pm | Leak observed from thief hatch Condensate Storage Tank, WV AST# 052-00000312, (the group of tanks near combustor)<br>Video by Daniel Hoyt                       |                           |
| DSC00802 | 1:17 pm | Storage Tanks<br>Photograph by Natalia Vazquez  |                           |
| DSC00803 | 1:19 pm | Label of Condensate Storage Tank, WV AST# 052-00000312, leak observed from thief hatch (the group of tanks near combustor)<br>Photograph by Natalia Vazquez     | 20 ppm                    |
| MOV_0252 | 1:21 pm | Leak observed from thief hatch of Condensate Storage Tank, WV AST# 052-00000320, (the group of tanks near combustor)<br>Video by Daniel Hoyt                    | 200 ppm                   |
| MOV_0253 | 1:23 pm | Leak observed from thief hatch of Produced Water Storage Tank, WV AST# 052-00000332, (the group of tanks near combustor)<br>Video by Daniel Hoyt                | 150 ppm                   |
| DSC00804 | 1:24 pm | Label of Condensate Storage Tank, WV AST# 052-00000320, leak observed from thief hatch (the group of tanks near combustor)<br>Photograph by Natalia Vazquez     |                           |
| MOV_0254 | 1:25 pm | Leak observed from thief hatch of Produced Water Storage Tank, WV AST# 052-00000312, (the group of tanks near GPUs)<br>Video by Daniel Hoyt                     | 80 ppm                    |
| DSC00805 | 1:26 pm | Label of Produced Water Storage Tank, WV AST# 052-00000332, leak observed from thief hatch (the group of tanks near combustor)<br>Photograph by Natalia Vazquez |                           |
| DSC00806 | 1:27 pm | Label of Produced Water Storage Tank, WV AST# 052-00000312, leak observed from thief hatch (the group of tanks near GPUs)<br>Photograph by Natalia Vazquez      |                           |
| MOV_0255 | 1:30 pm | Leak observed from thief hatch of Condensate Storage Tank, WV AST# 052-00000339, (the group of tanks near GPUs), odor detected by Mr. Hoyt                      | 150 ppm<br>(intermittent) |

|                    |         | Video by Daniel Hoyt  |             |
|--------------------|---------|---|-------------|
| DSC00807           | 1:31 pm | Label of Condensate Storage Tank, WV AST# 052-00000339, leak observed from thief hatch (the group of tanks near GPUs)<br>Photograph by Natalia Vazquez                                  |             |
| MOV_0257           | 1:34 pm | Leak observed from thief hatch of Storage Tank, WV AST# 052-00000314, (the group of tanks near GPUs), odor detected by Mr. Hoyt and Ms. Vazquez<br>Video by Daniel Hoyt                 | 140 ppm     |
| MOV_0258           | 1:35 pm | Leak observed from thief hatch of Produced Water Storage Tank, WV AST # 052-00000324, (the group of tanks near GPUs), odor detected by Mr. Hoyt and Ms. Vazquez<br>Video by Daniel Hoyt | 158 ppm     |
| DSC00808           | 1:37 pm | Label of Produced Water Storage Tank, WV AST # 052-00000314, leak observed from thief hatch (the group of tanks near GPUs)<br>Photograph by Natalia Vazquez                             |             |
| MOV_0259           | 1:37 pm | Leak observed from the ground, tanks WV AST # 052-00000314 and WV AST # 052-00000324<br>Video by Daniel Hoyt  |             |
| DSC00809           | 1:38 pm | Label of Produced Water Storage Tank, WV AST# 052-00000324, leak observed from thief hatch (the group of tanks near GPUs)<br>Photograph by Natalia Vazquez                              | 154 ppm     |
| DSC00810           | 1:39 pm | Stains in Produced Water Storage Tank<br>Photograph by Natalia Vazquez  |             |
| Facility: Hoyt 401 |         |   |             |
| File Number        | Time    | Description   | PID reading |
| DSC00811           | 1:59 pm | Sign at entrance of Hoyt 401 wellpad<br>Latitude: 39.5975N<br>Longitude:80.6522W<br>Address: 5917 Hoyt Ridge Rd.<br>Wileyville WV 26581<br>Photograph by Daniel Hoyt                    |             |
| DSC00812           | 2:13 pm | Sky reflection in Data Output Screen<br>Photograph by Natalia Vazquez   |             |
| DSC00813           | 2:20 pm | Stains in Gun Barrel Tank, WV AST # 052-00000299  |             |

|                          |         | Photograph by Natalia Vazquez  |             |
|--------------------------|---------|--|-------------|
| DSC00814                 | 2:22 pm | Stains in Gun Barrel Tank, WV AST # 052-00000299<br>Photograph by Natalia Vazquez  |             |
| Facility: Hoyt 404       |         |  |             |
| File Number              | Time    | Description  | PID reading |
| DSC00815                 | 2:31 pm | Sign at entrance of Hoyt 404 wellpad<br>Latitude: 39.6111N<br>Longitude:80.6378W<br>Address: 5764 Hoyt Ridge Rd.<br>Wileyville, WV 26581<br>Photograph by Daniel Hoyt  |             |
| DSC00816                 | 2:32 pm | Sign at entrance of Hoyt 404 wellpad<br>Photograph by Natalia Vazquez  |             |
| DSC00817                 | 2:35 pm | Wellheads Gun Barrel Tanks, and Storage Tanks<br>Photograph by Natalia Vazquez   |             |
| DSC00818                 | 2:40 pm | Sky reflection in Data Output Screen<br>Photograph by Natalia Vazquez  |             |
| Facility WJ Criswell 405 |         |  |             |
| File Number              | Time    | Description  | PID reading |
| DSC00819                 | 2:57 pm | Sign at entrance of WJ Criswell 405<br>Latitude: 39.6086 N<br>Longitude:80.6181 W<br>Address: 4515 Hoyt Ridge Rd.<br>Wileyville, WV 26581<br>Photograph by Daniel Hoyt |             |
| DSC00820                 | 2:57 pm | Sign at entrance of WJ Criswell 405<br>Photograph by Daniel Hoyt   |             |
| DSC00821                 | 3:04 pm | Data Output Screen, Gas Meter, MarkWest Gas Sales Meter<br>Photograph by Natalia Vazquez   |             |
| DSC00822                 | 3:05 pm | Data Output Screen, Condensate (Oil) Storage Tanks levels (in inches)<br>Photograph by Natalia Vazquez   |             |



| DSC00823                     | 3:06 pm | Data Output Screen, Produced Water Storage Tanks levels (in inches)<br>Photograph by Natalia Vazquez   |             |
|------------------------------|---------|--|-------------|
| DSC00824                     | 3:06 pm | Data Output Screen, Produced Water Storage Tanks levels (in inches)<br>Photograph by Natalia Vazquez   |             |
| MOV_0260                     | 3:07 pm | Leak observed from thief hatch of Produced Water Storage, WV AST # 052 – 00001147,<br>Video by Daniel Hoyt   | 50 ppm      |
| MOV_0261                     | 3:10 pm | Leak observed from thief hatch of Produced Water Storage, WV AST # 052 – 00001144<br>Video by Daniel Hoyt  | 100 ppm     |
| DSC00825                     | 3:15 pm | Label of Produced Water Storage, WV AST # 052 – 00001147, leak observed from thief<br>hatch<br>Photograph by Natalia Vazquez   | 50 ppm      |
| DSC00826                     | 3:15 pm | Label of Produced Water Storage, WV AST # 052 – 00001144, leak observed from thief<br>hatch<br>Photograph by Natalia Vazquez   | 100 ppm     |
| Facility: Mary Miller GRT WZ |         |  |             |
| File<br>Number               | Time    | Description  | PID reading |
| DSC00827                     | 3:23 pm | Sign at entrance of Mary Miller GRT WZ wellpad<br>Latitude: 39.6156 N<br>Longitude: 80.6144 W<br>Address: 4435 Hoyt Ridge Rd<br>Wileyville WV 26581<br>Photograph by Daniel Hoyt |             |



## Vazquez, Natalia

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**From:** Hoyt, Daniel  
**Sent:** Thursday, September 28, 2017 3:37 PM  
**To:** Jon Hickman  
**Cc:** Bob Adams; Vazquez, Natalia  
**Subject:** Ascent Resources Well Pads Visited by EPA on September 18, 2017

Hello Jon Hickman,

Thank you for accompanying me and Natalia Vazquez at the Long 408/409, Hoyt 403, Hoyt 402, Hoyt 401, Hoyt 404, WJ Criswell 405, and Mary Miller GRT well pads, on September 18, 2017. During our exit briefing on September 21, 2017, we asked for some documents, and/or information. As a reminder, I said I would send you a list of the items that we asked for. Please provide the following documents and/or information by October 12, 2017:

1. Copies of permit application response(s) and approval from the West Virginia Department of Environmental Protection (WVDEP) for current authorization of the air emissions sources at the WJ Criswell 405 well pad;
2. Copies of construction and/or operating permit applications that were submitted most recently to WVDEP that provide representations regarding the operating conditions for the air emissions sources at the Long 408/409, Hoyt 403, Hoyt 402, Hoyt 401, Hoyt 404, WJ Criswell 405, and Mary Miller GRT well pads;
3. The make and model, expected destruction efficiency, and maximum and minimum design gas flow rates for each control device (flare or vapor combustor) at the Long 408/409, Hoyt 403, Hoyt 402, Hoyt 401, Hoyt 404, and Mary Miller GRT well pads;
4. Copies of existing closed vent system and control device design analyses, if any, that evaluate the sizing of the closed vent systems and control devices at the Long 408/409, Hoyt 403, Hoyt 402, Hoyt 401, Hoyt 404, and Mary Miller GRT well pads, based on the maximum expected liquid and gas flow rates. If available, please include the date of the analysis, the maximum expected liquid and gas flow rates, sample results of liquids and gases used for the analysis, and example calculations/descriptions of methodologies used to estimate flash emissions and maximum vent system flow rates;
5. Copies of documentation, if any, indicating pneumatic controllers at the Long 408/409, Hoyt 403, Hoyt 402, Hoyt 401, Hoyt 404, WJ Criswell 405, and Mary Miller GRT well pads have bleed rates less than or equal to 6 standard cubic feet per hour;
6. Copies of existing SOPs if any, for inspections and preventative maintenance of critical equipment necessary for preventing/minimizing releases and leaks (such as emergency shutoff devices, thief hatches and pressure relief devices), at the Long 408/409, Hoyt 403, Hoyt 402, Hoyt 401, Hoyt 404, WJ Criswell 405, and Mary Miller GRT well pads. If available, please include example records of recent inspection and preventative maintenance activities at the identified location;
7. Copies of existing SOPs for leak detection and repair activities, if any, at the Long 408/409, Hoyt 403, Hoyt 402, Hoyt 401, Hoyt 404, WJ Criswell 405, and Mary Miller GRT well pads, including use of 40 CFR part 60, Appendix A-7, Method 21, optical gas imaging instruments such as an infrared cameras, and/or audio, visual or olfactory methods for leak detection. If available, please include example records of recent leak detection and repair activities at the identified locations;
8. A list of the American Petroleum Institute (API) well numbers for each well at the Long 408/409, Hoyt 403, Hoyt 402, Hoyt 401, Hoyt 404, WJ Criswell 405, and Mary Miller GRT well pads, and indicate the well pad name and the date of well completion for each listed well; and
9. Confirm that the Hoyt 404 well pad is it also known as the John Rush 404 well pad. If the Hoyt 404 and John Rush 404 are not the same well pad, provide copies of permit application response(s) and approval from WVDEP for current authorization of the air emissions sources at the Hoyt 404 well pad, and the following information for the John Rush 404 well pad:





- a. Copies of construction and/or operating permit applications that were submitted most recently to WVDEP that provide representations regarding the operating conditions for the air emissions sources;
- b. Copies of existing closed vent system design analyses, if any, that evaluate the sizing of the closed vent system(s) and control device(s) as described in item 3 above;
- c. Copies of existing SOPs if any, for inspections and preventative maintenance of critical equipment necessary for preventing/minimizing releases and leaks (such as emergency shutoff devices, thief hatches and pressure relief devices), and example records of recent inspection and preventative maintenance activities, if any; and
- d. Copies of existing SOPs for leak detection and repair activities, if any, and example records, if any, as described in item 5 above.

If any of the above requested documents or information are not available, please indicate as such in the response, and include the reason the requested documents or information are not available. If you will be providing your response by mail please send the response to:

Natalia I Vazquez Rivera  
Office of Air Enforcement and Compliance Assistance  
U.S. Environmental Protection Agency  
1650 Arch Street (3AP20)  
Philadelphia, PA 19103-2029

Regards,

Dan Hoyt

Daniel Hoyt, Environmental Engineer  
US Environmental Protection Agency  
Office of Enforcement and Compliance Assurance  
Office of Civil Enforcement - Air Enforcement Division  
(202) 564-7898  
1200 Pennsylvania Ave, NW  
WJC-S, MC 2242A  
Washington, DC 20460 (mail) or 20004 (courier)

